Listing of Claims

1-3. (Canceled)

4. (Currently amended) A method of making mineralized nanofibers ~~materials on self assembled peptide amphiphiles~~, the method comprising: preparing a first solution with at least one ionically charged species of peptide-amphiphile and at least one ion of a mineral salt, wherein the ion of the mineral salt has ~~providing at least one ion from the material and having~~ the same signed net ionic charge as the peptide-amphiphile; preparing a second solution with an ion of a mineral salt ~~an ion from the materials and~~ having an opposite signed ionic charge to the net ionic charge of the peptide-amphiphile of said first solution; and mixing said first and second solutions to self-assemble said peptide amphiphiles into nanofibers and a nanofiber gel, wherein minerals nucleate at the ~~and to form said materials substantially on said~~ nanofiber surfaces.

5. (Currently amended) The method claim 4 further comprising: aging the mixture of said first and second solutions to control the size and rate of growth of said materials on the self-assembled peptide amphiphile nanofibers.

6. (Original) The method of claim 4 further comprising: adjusting the pH of one of the solutions prior to mixing them together.

7-11. (Canceled)

12. (Newly added) The method of claim 4, wherein said minerals are selected from the group consisting of hydroxyapatite, fluoroapatite, calcium oxalate, calcite, tin hydrogen phosphate, iron oxides, iron hydroxides, iron oxyhydroxyoxides, titanium dioxide, and zinc

oxide.

13. (Newly added) The method of claim 12, herein the mineral is hydroxapatite.

14. (Newly added) The method of claim 4, wherein the peptide-amphiphile has a net negative charge.